MICHIGAN FARMER.

Devoted to Agriculture, Horticulture, and Domestic and Rural Affairs.

NEW Perfect Agriculture is the foundation of all Trade and Industry.—Liebig. SERIES.

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The Prairies, An Illustration.—An extract from an editorial article in Dr. Lee's Cultivator:

The prairies, which are annually burnt over, furnish a case in point. The *ash*, or earthy portion of plants is left on the ground, while most of the organized carbon, nitrogen and elements of water are dissipated by fire through the atmosphere. Nevertheless, the soil of these burnt prairies is remarkably fertile. The roots of each crop of grass yield a full supply of carbonaceous matter, without a particle of manure, while the ash of the preceding crop furnishes the minerals needed to organize a new one. If a farmer will adopt the same system, and restore all the earthy part of each harvest to the field whence it is taken, he may grow any crop, year after year, as prairie grass grows, for centuries, without injury to the soil. We beg the reader to bear in mind the fact, that all the prairie grass is burnt up every year, cropping it closer than any man can on a farm; and yet, the soil gains fertility, instead of becoming poorer, under the operation. This result accrues from the circumstance, that each crop draws soluble minerals from the subsoil, through the agency of its deepest roots, which the fire leaves on its surface as fertilizers.

Deep Plowing and Subsoiling will greatly aid the ascent of moisture from the depth of two or three feet, which moisture or water will hold most needful salts in solution. As there is a constant evaporation going on from the green leaves of growing plants, the water from the subsoil enters their roots and carries with it up to the leaves, whatever minerals it may hold in solution. If these are what nature requires to organize carbon, oxygen, hydrogen and nitrogen, into the tissues of the plan, such organization proceeds at a rapid rate.

Adaptation of Fertilizers.—The value of excretions must always depend on the chemical composition of the food—never on the genus or species of the animal. Fifty pounds of corn meal, whether it be consumed by a horse, a cow, a sheep, a pig or a human being, will yield the same fertilizing elements in the liquid and solid excretions of all. The value of all manures, all composts, depends on the kind of ingredients, and the proportion of each, which enter into the composition of the mass, and in their availability in feeding growing crops. As a general rule, it can be demonstrated that not over one half, and often not a fourth of the matter applied to cultivated lands in the shape of dung, urine or compost, ever enters the roots, or benefits in the least, the crops of the agriculturist. The *art* of providing suitable food for each species of plants grown on the farmer, and of saving such food from great waste when applied to the earth, not one farmer in a thousand has studied, as he should study, to be master of of his noble profession.

Every observing man knows that, no matter how poor a soil may be, so far as the development of a young plant depends on the decomposing parent seed for nourishment, it comes forward rapidly. But so soon as this source of food is exhausted, the plant becomes pale, has the yellows, unless its foster parent, the earth, yield nutriment precisely like that derived from the seed. The seeds of all crops are the true exponents of the kinds of matter which, if abundant in the soil, will give the most bountiful harvests.

We have already commenced a course of experiments on this interesting subject on the poorest land in the neighborhood of Augusta. We are looking into the leaves of the pines and the oaks of Georgia, as they fall, laden with minerals drawn from the subsoil, six and seven feet below the surface, where we trace their roots.—If the earth on the "Sand Hills," near this city, to the depth of eight feet, has any fertilizing elements, the acorns and leaves which are now falling on the surface of the ground, will contain them. This is the way in which Nature draws the constituents of your crop from far below where the plough ever goes.—*Southern Cultivator.*

How the Peruvians use Guano.—Boussingault speaks of seeing fields in Peru, on which wheat had been grown *every year* for two centuries.—By what rule of practical agriculture, unaided by science, can you account for the historical fact, that a people afford to pay, generation after generation, "from two to three dollars a bushel for white guano?" There is a secret in this matter worth knowing. Why will one bush. of the excrements of sea birds make, under favorable circumstances, *fifty of corn?* If we co'ld only teach every farmer in the United States to understand this question, we should hope that we had not lived to leave the world no wiser than we found it.

Guano contains the small amount of minerals, without which not a kernel of corn can be formed. Of these minerals, 100 pounds of corn con-

tain but *one pound*. The other 99 pounds in 100 of maize are infinitely more abundant.

We have fed birds on corn meal for several days, which we had previously dried and weighed, and weighed their *guano* when dry. Four-fifths of the food was burnt up, and escaped from the lungs. In birds, much on the wing, we doubt not that nine-tenths of their food escapes in the form of vapor and gas, so that their dung, well dried, would be little beside the *ash* of what they had eaten, whether fish, flesh, or the seeds of plants. Hence, a pound of hen dung is worth far more than a like weight of cow dung.—There are more things about a pigeon's crop, gizzard and lungs, than most men are aware of.

That large portion of the seeds of corn and other organized matter, which birds expel from their capacious lungs into the air, God restores to the leaves and roots of plants, without the toil of the husbandman. But Providence will not do all the work of man, and leave him to subsist in idleness, ignorance and gross brutality. With our natural powers of reason, our perception of what is right and what is wrong, Heaven has created a necessity for our intellectual and moral culture.—*Southern Cultivator.*

How to make Fruit Trees Bear.—The failure in fruiting, according to our *theory*, arises from too great luxuriance—the organization of too much wood, which robs the fruit germs of their share of nutriment.

The remedy is to prune both the roots and the branches of the tree. This will check its growth and make it organize far less wood and more fruit. Nature seems to fear the death of the individual, before providing seeds for another generation of trees, and thus seeks to avoid the extinction of the race from the face of the earth. So long as a tree grows rapidly, and has the promise of a long life, nature seems quite indifferent about forming and ripening seed. Prune its roots, and you will see that the petals will hold on for a due season, and fruit come to maturity. It may happen that the soil lacks bone earth or phosphates. Burnt bones well pulverized are the remedy for this defect. The dwarfing of apple and other trees, and making the buds of young pear trees to bear fruit in one season on quince stocks, is founded in the same natural law which we have attempted to elucidate.

When too much fruit sets, a portion should be cut off. Wringing the bark from a limb, and thus preventing its sap from returning to the earth to form roots, will make the limb bear additional fruit.—*Southern Cultivator.*

A Portrait of an Anti-Book Farmer.—He ploughs three inches deep, lest he should turn up the poison, that in his estimation, lies below; his wheat land is ploughed so as to keep as much water on it as possible; he sows two bushels to the acre and reaps ten, so that it takes a fifth of his crop to seed his ground; his corn land had never any help from him, but bears just what it pleases, which is from thirty to thirty-five bushels, by measurement; though he brags that it is fifty or sixty. His hogs, if not remarkable for fattening qualities, would beat old Eclipse at a quarter race; and were the man not prejudiced against deep ploughing, his hogs would work his ground better with their prodigious snouts, than he does with his jack-knife plough. His meadow lands yield three quarters of a ton to a whole ton of hay; which is regularly spoiled in curing; regularly left out for a month, very irregularly stacked up and left for the cattle to pull out at their pleasure and half eat and half trample under foot. His horse would excite the avarice of an anatomist in search of osteological specimens; and returning from their range of pasture they are walking herbariums, bearing specimens in their main and tail of every weed that bears a burr or cockle. But oh, the cows! If held up in a bright day to the sun, don't you think they would be semi-transparent? But he tells us good milkers are always poor! His cows get what Providence sends them, and very little besides, except in winter, then they have half a peck of corn, the ears a foot long thrown to them, and they afford lively spectacles of corn and cob crushers; never mind, they yield, on an average, three quarts of milk per day! and that milk yields varieties of butter quite astonishing. *Western Farmer and Gardner.*

Healthy Milk.

From time immemorial, even unto the present, the milk of cows, where this animal can be kept, has been used for food, especially for the younger part of the community. The ingredients of this nutritious fluid, when in a healthy condition, is admirably adapted to the requirements of the growing system or bodies of children and young animals. It is important, therefore, that it sho'ld be pure. But to have it pure it is necessary that the cow should not only be in a healthy condition, but should also be fed with suitable food. Milk is secreted from the blood of the animal, by the udder. Whatever the animal eats, after being digested, is contained more or less in the blood, and is sure to become a part and parcel of the milk of a milch cow. If you doubt this give your cow a feed of onions, and in a short time, if your milk is not as odoriferous as an onion bin, we will acknowledge that we are mistaken.

The milk will always partake, more or less, of the qualities of the food given to the cow or animal that is milked. Hence the milk obtained from those cows kept in distillery yards and fed upon the grains and slops that are there made, must lack a portion of the best parts of good milk, because the grains upon which they

are fed have been deprived of the best parts of their nutritive matter, and the milk is made up of such materials, only, as are digested by the cow.

The last number of the Genesee Farmer contains a communication from a correspondent, over the signature of "N. R. Y.," who relates an amusing account of his cows, which he tho't gave bloody milk. "Two years ago," says he, "I had four very fine milch cows. To keep them in good heart late in the fall, I fed them for several days with the loose cabbage from the garden. They soon commenced giving bloody milk so bad that the whole was given to the pigs. I used various medicines, and annointed their bags with garget ointment, but with no benefit; and thus they went on, to my great alarm, until all my cabbage was fed out. And what, Mr. Editor, do you think was the cause of this appearance of their milk? Why, sir, it was as simple "as the way to our parish church," when once found out. Among my cabbage was a considerable quantity of the red variety, which had headed badly, as they usually do, and this was the sole and only cause of my bloody milk —to my great discomfiture, and joy of the pigs." It is a well ascertained fact that the cattle that eat the madder root have their entire horns dyed a bright red, and so perfectly that they retain the color after being worked into toys, &c. We have also been told that the horns of cattle will be tinged red if madder root be put into their food a considerable length of time.

Cows that are fed on carrots give milk and cream of a much more yellow color, and we presume that if anatto, or ottar, as some call it, be put into provender and fed to cows, the milk will partake of the color. Hence we see that while it is important to have pure milk, it is necessary to feed the cows with pure food.—*Maine Farmer.*

Economy of Fodder.

A penny saved is two pence earned.—FRANKLIN.

Too many farmers are obnoxious to the charge of being "penny wise and pound foolish" in some of their affairs. In the feeding of stock for instance, farmers who are scrupulously vigilant, in applying the most rigid principles of prudence in other matters, are shockingly remiss. My object in the present communication is not so much however to censure as to offer a word to those to whom, consequently, a few kindly and timely suggestions may be beneficial. The subject to which I wish at present more particularly to solicit attention, is the economization of fodder—a subject certainly, in this climate, of transcendant importance, and to which every one who has the care and management of a stock of cattle, ought watchfully to attend. It has been repeatedly demonstrated by experiment, that the simple process of cutting fodder for horses and neat stock will effect a very considerable saving. This is a process easily effected.—The machinery or instrument rather used for this purpose is extremely simple and of small cost. A simple operation will cut a sufficiency of straw, hay, butts or top stalks in an hour, for a dozen or fifteen head of cattle, and this fodder so cut, moistened with warm water, (if the weather be cold) and fed out with a slight *quantum* of meal, will be twice as effectual in promoting the growth of the animal as if fed to them in its uncut state.

No "orts" are to be made in this way, and the large and coarse portions are devoured instead of being rejected and thrown away.

By adopting this economical system of feeding his refuse, a farmer may easily convert all his straw, stalks, &c., to a valuable use. If he have plenty of these materials, he may, if he thinks judicious, mix hay with them in such proportions as to him may appear to be best calculated to promote the animal's health and growth; or, he may mix straw, stalks and hay, and then add water, meal and salt. This I find makes a rich feed, and is excellent for milch cows, and by many is considered equal to hay or grain. In some instances I have added boiled potatoes to the above materials, which is doubtless a valuable addition; but objectionable where one has a large stock on the score of its expense. I now prefer feeding the potatoes separate, and in their natural state—say once a week. This prevents costiveness and as the potatoes are laxative conduces greatly to the animals' health.

If those who have never tested this plan will adopt it, they may rest assured of the best results. Let every farmer and stock feeder, therefore, give a fair trial; the expense will be small and far more than refunded in the first week.

In New England, especially in all the best farming region, the chopping of fodder, even English hay, for horses and other stock, is practised as regularly as the grinding of corn. Hay and straw cutters of superior construction, are there seen for sale in all the principal warehouse, and agricultural depots, and are found in most of the barns and stables throughout the New England States.

A PRACTICAL FARMER.

(Germantown Telegraph.)

Corn Meal Cakes.—Excellent breakfast cakes can be made in the following manner; Mix two quarts of corn meal, at night, with water, and a little yeast and salt, and make it just thin enough to stir easy. In the morning stir in three or four eggs, a little saleratus, and a cup of sour milk, so as to leave it thin enough to pour out of a pan; bake three quarters of an hour, and you will have light, rich honey-comb cakes—and with a good cup of coffee and sweet butter at breakfast, one finds with Hamlet, "increase of appetite to grow with what it feeds on."

Important hints for Horticulturists, &c.

The following extract from Leibig with the accompanying comments, shows clearly why it is that transplanting, grafting, and cutting of trees for timber, lumber, or wood, should be done at one time rather than another, and also why fruit trees often bear only every alternate year, and the remedy for it. The comments are from a correspondent of the Farmer's Cabinet:

Mr. Editor—I take the following extract from Dr. Liebig's great work on Agricultural Chemistry. It may be found in the chapter headed "The Art of Culture."

"A new and peculiar process of vegetation ensues in all perennial plants, such as shrubs, fruit and forest trees, after the complete maturity of their fruit. The stem of annual plants at this period of their growth becomes woody, and their leaves change in color. The leaves of the trees and shrubs on the contrary, remain in activity until the commencement of the winter. The formation of the layers of wood progresses, the wood becomes harder and more solid; but after August the leaves form no more wood; all the carbonic acid which the plants now absorb is employed for the production of nutritive matter for the following year; instead of woody fibre, starch is formed, and is diffused through every part of the plant by the autumnal sap. According to the observations of M. Meyer, the starch thus deposited in the body of the tree, can be recognized in its known form by the aid of a good microscope. The barks of several aspen and pine trees* contain so much of this substance, that it can be extracted from them as from potatoes, by trituration with water. It exists also in the roots and other parts of perennial plants. A very early winter, or sudden change of temperature, prevents the formation of the provision for the following year; the wood, as in the case of the vine stock, does not ripen, and its growth is in the next year very limited. From the starch thus accumulated, sugar and gum are produced in the succeeding spring, while from the gum those constituents of the leaves and young sprouts which contain no nitrogen, are in their turn formed. After potatoes have germinated, the quantity of starch in them is found diminished. The juice of the maple tree ceases to be sweet from the loss of its sugar, when its buds, blossoms and leaves attain their maturity. The branch of a willow which contains a large quantity of granules of starch in every part of its woody substance, puts forth both roots and leaves in pure distilled rain water, but in proportion as it grows, the starch disappears; it is plainly evidently exhausted for the formation of roots and leaves."

*It is well known that bread is made from the bark of pines in Sweeden during famines.

Here we have some very useful facts; indeed, the full extent of their usefulness hardly appears at first sight—it requires reflection in order to get acquainted with it, I shall treat upon it in connection with a variety of operations, each of which is highly important.

First, in connection with transplanting trees and shrubs. When these are transplanted, many of the roots are absent, and the plant deprived to the same extent of the means of external support. If this be done in the summer, when the plant has but little or no starch, and therefore no internal means of support, the plant suffers by the operation, and without great care seldom survives. But if the transplanting takes place in the winter, or at any time after the starch is deposited in its cells, and before the tree or shrub blooms in the spring, the plant does not so much suffer by the operation. It has within itself, by the aid of its starch, the means of subsistence in the first stages of growth, and therefore the roots may more readily be dispensed with. By the aid of its starch it puts out roots and leaves, and by the time the starch is all gone, it may depend upon those roots and leaves for its future subsistence. This is the reason why nurserymen advise the transplanting of trees and shrubs in the fall, winter and spring—after August, and before the plants bud in the spring.

Owing to the carelessness often displayed in transplanting, the earth is not placed close to, or in contact with the roots of the plant, and the consequence sometimes is, that when the plant puts forth its small roots, they do not meet with the earth that should surround them, and therefore wither and die. This is one reason why it is better to transplant trees and shrubs in the fall instead of the spring, because during the winter and before the time of budding in the spring, the rains may settle the earth around the roots well, and the efforts of the plant when it puts forth its tender roots, are availing; and if all the other circumstances are equal, the chances for a successful operation of transplanting are good.

We come next to consider our text in connection with grafting. When a graft is well supplied with starch, as it is in a healthy tree, after, say November, and before April, it has the means within itself of growth, provided it has moisture. The graft should be so placed in the stock as to secure this end, if almost absolute certainty is aimed at. Remember the proper time to take grafts from the parent stock is after November and before April, for reasons above stated.

The same remarks with little variation, may apply to slips. cuttings, &c.

So much for the Horticulturist merely—but we now come to show how important our text is to all who use wood—and who does not? It will readily occur to the minds of students, that when wood is filled with this starch, that it offers strong temptations to hungry insects, who are in search

of food. They readily bore into it, eating the starch but unfortunately damaging the wood.—This temptation is particularly great, when the starch by the addition of moisture and warmth, assumes the form and sweetness of sugar. It is then extremely liable to be attacked by insects, and if we would avoid them, we must cut such wood as we would use for mechanical purposes, in the summer, after the tree is in full leaf, and before August. This is highly essential; the tree has then but little or no starch in its cells, and when the wood becomes dry, it becomes very hard, and there being no temptation for the insect, it does not attack it, and thus a great and often vexatious difficulty is often avoided. Wood intended to burn, would be better cut in the winter, for then the starch as well as the wood, may be burned, and wood is easier cut when dry, when it is filled with starch, than when not, for in the latter case it is nearly as hard as iron.

Starch decays more rapidly than woody fibre, as it is more liable to chemical change. Lumber, therefore, that is filled with starch, or that has been cut during the winter, rots much more readily than that cut during the summer.

When clearing land, it is desirable that stumps should not throw up shoots. This they are very liable to do when the tree has been cut during the winter, as the stump and roots have been well supplied with starch, and this starch enables the stump to throw up the shoots. If we would get rid of this difficulty, therefore, we will clear our land in the summer.

There is but one other view that may be taken of our text, that presents itself to my view at present, although there may be others that my attention may not now be directed to. That view is this—when fruit trees bear very heavy crops late in the fall, they are apt to exhaust their supply of carbonic acid in the formation of fruit, and leave none for the formation of starch, for the use of the leaves and roots of the following year. Hence during the year after such late and heavy bearing, they appear sickly and weak, and though they often blossom finely, they bear little or no fruit. But during the fall of the non-bearing season, they again acquire their supply of starch and gum, and the next year, if other circumstances are equal, they bear their usual fine crop. On this account they are said to bear fruit *naturally* every other year, when if the cause was understood and the tree supplied well with lime, ashes, and ground charcoal, so that it might absorb and assimilate sufficient carbonic acid for its fruit and the formation of its starch—the tree might be made to bear every year—*naturally*.

I have necessarily been brief in all these points, Mr. Editor, but an intelligent mind and good judgment cannot fail, when opportunity offers, to make a good use of these hints—and knowing you have many such minds among your readers, I submit them to you for publication.

Propagation of the Yellows in the Peach.—Its Prevention.—For many years the peach tree has been subject to a disease known as the yellows. This disease seldom makes its appearance before the tree has arrived at maturity, as its great vigor and rapid growth appear to preclude the development of the diseases previous to the tree fruiting. Much time, labor, and research have been spent in fruitless endeavors to eradicate this disease after it has made its appearance in orchards, and the only result arrived at is the necessity for replanting new trees, to take the place of the old ones at short intervals of time. Many applications have been recommended, and potash, lime, tobacco, banking up trees in winter, &c., have had their advocates. Although individual cures may have been effected, or decay for a time arrested by the remedies, yet such instances are extremely rare; and when applied on a large scale are shown to be without value. The disease, a true consumption, still continues, and will continue, unless some radical method is adopted to eradicate it. From my own observation and experience I am led to the belief that this formidable disease has been much aggravated and spread throughout the country by budding from trees containing in themselves the seeds of incipient consumption, not yet externally developed. A bud may be taken from a tree apparently sound, but after a time both trees will be affected and decay, and so on ad infinitum. The only remedy appears to be to bud from trees which are known to be entirely sound, and in which no disease has appeared for several generations. By taking this precaution growers may rely upon having trees that with ordinary care will live and bear fruit for many years, and in time eradicate this evil. That the disease, however it may have originated, has not its origin in either the soil or the climate of this latitude is pretty evident. Natural trees can now be found in great numbers, of many years growth, alongside fences and other neglected situations, perfectly sound, and likely to remain so. These are the trees to propagate from; and although the fruit is generally of an inferior quality, yet a cultivation of a few years will render it of superior flavor.—*Farmer and Mechanic.*

Upland Cranberries.—We have so often written upon the subject of Upland Cranberries, as to be almost ashamed of saying anything more; but at the risk of being considered as having but one idea, will give some facts from the culture of our friend, Mr. Gardner, of Massachusetts, of this year. In writing to me lately, he says, "My swamp cranberry vines were much injured by a late frost in June. An early frost in the fall completed the destruction of fruit for this season. My upland plants bore a full crop, having escaped both the spring and fall frosts."—*Farmers' Cabinet.* B. G. Boswell.

The Value of a Potatoe.

I believe the whaling fleet from the United States alone, employs about 10,000 men: many of them are gone from home four years, touching at ports every four to six months, for such fresh water and vegetables as the port may furnish; but as the "fishing grounds"* are almost wholly intertropical, such vegetables as they obtain keep but a short time; hence the condition of the men on these long voyages, is often such as I have represented; only sometimes they are on a short allowance of this hard fare. No long time elapses under these circumstances, before nature begins to succumb.

The sailor who prides himself upon his alacity in the performance of his rugged offices, alow and aloft, by day and night, in fair weather and foul, looses his strength and his ambition; he has no pain, but his feet swell, his appetite for such as the ship affords, fails, he moves languidly about; a few more weeks or days, and a watery blood flows from his mouth, his breathing is labored; effusion of water is taking place in the chest; he can no longer go aloft, and soon he goes below, never to re-appear on deck, unless timely relief comes to his aid. All these symptoms are unattended with pain; but they are preceded and accompanied throughout, with the intensest longing for *fresh vegetables;* and these,—with an exception or two not here worth naming,—are his only remedy; with them he lives, without them he dies. The pointings of nature, in this case, are both curious and instructive; the lemon, the melon, and all *fresh* fruits, are acceptable and useful; but the most urgent call is for the cruder vegetables, as the potatoe, the cabbage, &c., and this in their crudest state, uncooked—raw! Yes, the Irish potatoe, raw!! Every sailor who has been so placed, and every physician who has been much conversant with their diseases, knows that these are the very remedies, and this the very mode of administering them, that most speedily and most surely restores the prostrated man to health.

Now a ship with one-fourth of her crew below, and few of the remainder quite well, "puts away" for the land; but she is six weeks, good sailing, from the nearest port, and some of her sick must be buried in the ocean without more timely relief. How anxiously does every eye watch for a passing ship—no common occurrence in the mid-Pacific—with a hope that she may be late from some haven, and yet have a few fresh vegetables. The ship is hailed, and—what is more precious than silver or gold—a few *potatoes* are obtained—the captain is the almoner; and he who has seen, in the "far West," a herd besiege the kit of salt, can conceive of the scene on board this lucky ship "Eighteen on deck, and six below, all told; one a piece, boys, for the well; and two each, for the sick, daily.', "All right, sir." Quickly the day's allowance is served, and closly does the hard hand grasp the prize; but we will go below—well does he know—that sailor in his narrow "bunk," with the broad bust, well bronzed in the sun, powerless, but not emanciated—well does he know the value of the gift, and he is content to use it frugally—if too exhausted to gnaw the sweet morsel, a shipmate scrapes a little with his knife and places it upon his tongue; if we may believe the oft-repeated declaration, no fruit, however luscious, no viand, however savory, could be half so palatable. As slowly he is served with one morsel after another—without drink, without condiment,—he seems to breathe more freely; and childish as himself thinks it, his emotions cannot be restrained; they are tears of joy and gratitude; a gratitude not confined to the hand that feeds him, nor yet to the noble captain of the passing ship, who, from his nearly exhausted store, has bestowed the half upon them whose need was greater than his; but rough as is his exterior, the heartfelt offering ascends to the bountiful Giver.—*From the Farmers Cabinet.*

*Alias, fathomless Oceans.

Draining.—H. Colman, speaking of the evils of *stagnant* water in the soil beneath the surface says: "plants produced on a very wet soil, are unpalatable, innutritious, and insubstantial. animals fed upon them always lose condition, and the manure of animals so fed is almost worthless. I saw this strkingly illuustrated in the mangnificent park of the Duke of Bedford, at Woburn Abby. Here there were many spots where the grass was luxuriant and abundant, on account of their excessive dampness, and which were entirely neglected both by the sheep and the deer; but wherever these places, once wet, had been thoroughly drained, they become the favorite resorts of these animals, and were fed as closely as possible."

Manuring the Grape Vine.

"In reference to an article in your paper, No. 7, 1838, I cannot omit the opportunity of again calling the public attention to the fact, that nothing more is necessary for the manure of a vineyard than the branches which are cut from the vines themselves.

"My vineyard has been manured in this way for eight years, without receiving any other kind of manure, and yet more beautiful and richly laden vines could scarcely be pointed out. I formerly followed the method usually practised in this district, and was obliged in consequence to purchase manure to a large amount. This is now entirely saved, and my land is in excellent condition.

"When I see the fatiguing labor used in the manuring of vineyards—horses and men toiling up the mountains with unnecessary materials—I feel inclined to say to all, Come to my vineyard and see how a bountiful Creator has pro-

vided that vines shall manure themselves, like the trees in a forest, and even better than they! The foliage falls from trees in a forest, and when they are withered, they lie for years before they decay; but the branches are pruned from the vine in the end of July or begining of August while still fresh and moist. If they are then cut into small pieces and mixed with the earth, they undergo putrefacation so completely that, as I have learned by experience, at the end of four weeks not the smallest trace of them can be found."

"REMARKS OF THE EDITOR.—We find the following notices of the same fact in Henderson's *Geschicte der Weine der alten und neuen Zeit:*'

"'The best manure for vines is the branches pruned from the vines themselves, cut into small pieces, and immediately mixed with the soil.'

"These branches were used as manure long since in the Bergstrasse. M. Frauenfelder says: †

"'I remember that twenty years ago, a man called Peter Muller had a vineyard here which he manured with the branches pruned from the vines, and continued this practice for thirty years. His way of applying them was to hoe them into the soil after having cut them into small pieces.

"'His vineyard was always in a thriving condition; so indeed, that the peasants here speak of it to this day, wondering that old Muller had so good a vineyard, and yet used no manure.'

"Lastly, Wilhelm Ruf of Schriesheim writes-

"'For the last ten years I have been unable to place dung on my vineyard, because I am poor and can buy none. But I was very unwilling to allow my vines to decay, as they are my only source of support in my old age; and I often walked very anxiously among them, without knowing what I should do. At last my necessities became greater, which made me more attentive, so that I remarked that the grass was longer on some spots where the branches of the vine fell than on those on which there were none. So I thought upon the matter, and then said to myself; If these branches can make the grass large, strong, and green, they must also be able to make my plants grow better, and become strong and green. I dug therefore my vineyard as deep as if I would put dung into it, and cut the branches into pieces, placing them in the holes and covering them with earth. In a year I had the very great satisfaction to see my barren vineyard become quite beautiful. This plan I continued every year, and now my vines grow splendidly; and remain the whole summer green even in the greatest heat.

"'All my neighbors wonder very much how my vineyard is so rich, and that I obtain so many grapes from it, and yet they all know that I have put no dung upon it for ten years.,,

† Badisches landwirthschafliches Wochenblatt, v. 1831, S 52 and 79

Rural Residences.—The following is an extract from an address by Dr. William Darlington, M. D. before the citizens of Chester County, Pa. assembled to form an agricultural Society. The subject is an important one, and deserves the attention of every farmer.

Next in importance to successful culture, and a correct knowledge of the objects and principles involved in the process, is the attainment known as good *taste*, or that refiined sense of the beauties of nature, which knows how to appropriate her charms, in the embellishment of farm houses, or cottages; and to invest them with that witchery and grace which should ever be associated with a country residence. No person, who has enjoyed the delights of a taseteful rustic dwelling, embossed among venerable trees and reposing amid the verdue of flower-spangled lawns, can fail to be shocked at the contrast of a rude vulgar looking tenemant, awkwardly stuck in some open weed-grown space, without a shade-tree, or an enclosure, to protect it from the rays of a burning sun, or the annoying approaches of the trampling cattle: and yet the difference may be entirely owing to the exercise of a cultivated taste in the one case, and a total destitution of it in the other. *Fruit tress*, and *shade trees*, should be regarded as indispensable appendages of every human residence. If duly attended to, the former will amply gratify the palate, while the latter will also minister to our enjoyment, directly, by the refreshing shelter afforded to ourselves, and indirectly, by attracting to their branches the lovely serenaders of the feathered race. How delightful in a tree-embowered cottage, to be roused from our slumbers by the gushing melodies, which, in such abodes, ever greet the dawn of a summer morning! By providing a shady retreat for the little warblers, and protecting them from the weapons of reckless sportsmen, we not only secure their punctual attendance, with the grateful tribute of their vocal strains, on each returning spring; but we are rewarded, tenfold, for all such benevolent offices, by the industry with which the welcome visitors labour to rid us of annoying and destructive insects. It should, therefore, be the business and the pleasure of the intelligent farmer, wherever located, thus to improve and adorn his premises.

Good Black Ink.—½ lb. of nut-galls: 3 oz. of gum arabic; 3 oz. of copperas. Soak the nut-galls in 3 pints of rain-water; the gum arabic in half a pint of warm rain-water; the copperas in another half pint; let them stand separately 48 hours, and then mix them, and the ink is made. This is the recipe of Prof. WEBSTER, of Harvard University.

☞ An hour's industry will do more to bege cheerfulness and retrieve your affairs than a month's moaning.

MICHIGAN FARMER,

WARREN ISHAM, EDITOR.

PUBLISHED SEMI-MONTHLY—TERMS $1 IN ADVANCE—FIVE COPIES FOR $4.

Another Thing we intend to Do.

We intend to traverse the State, and find out what sort of farmers we have got here in Michigan—how they are getting along under the difficulties and hardships and privations of a new country—what sort of farms they are carving out for themselves, and what sort of keeping they allow them—what sort of houses and barns and orchards, and gardens, and fences, and horses, and oxen, and cows, and sheep, and pigs they have got—what sort of crops of wheat, and corn, and oats, and buckwheat, and clover, and timothy, and potatoes, and turnips, and carrots, and beans, and peas they are raising—whether these products of the soil give evidence of being *full-fed*, or of being *starved*, checked in their growth, and *dwarfed*, for lack of the proper elements of nutrition in mother earth—noting special instances of successful or *un*-successful management—and to make the whole thing go off well and profitably to all parties, we intend, as we go along, to deliver lectures on agricultural chemistry, and unfold to some extent, the mysteries of the science of production, showing by analysis, as far as our means will allow, that the elements in the composition of soils, and of the plants which they produce, are *identical*, the one with the other, and *how preposterous* it is to expect a crop of *anything* from a soil which does not contain the elements which enter into its composition, (except what are derived from the atmosphere,) *unless* they are *supplied*,—confirming and sustaining the whole by an appeal to the practice of our best and most successful farmers, who are all governed, either wittingly, or unwittingly, by principles developed in the laboratory of the chemist.

And Still Another Thing.

We intend, by hook or by crook, to have an agricultural warehouse and seed store got up here in Detroit, at which all the implements of husbandry, of the most approved kinds, embracing the labor-saving machines so extensively in use at the East, such as corn planters, drilling and sowing machines, subsoil ploughs, gang-ploughs, improved cultivators, &c. &c., together with the choicest variety of field and garden seeds, shall be kept, for the accommodation of the farmers throughout the State.

Something Extraordinary.

It is certainly extraordinary, *very*, that Dr. Lee, should be personally present in two places a thousand miles apart, at the same time, and yet we are called on to believe the fact, for D. D. T. Moore, proprietor of the Genesee Farmer, says he is personally present in Rochester, and sends out his great name over the land as the Editor of the Genesee Farmer for the coming year, while at the same time, the proprietor of the Southern Cultivator, published at Augusta, Georgia, says that he is personally present in that City, and his name appears in the columns of that paper as its Editor. Now we appeal to the worthy Dr. himself to give us his whereabouts, and as we wish to direct a letter to his identical self, we would have him inform us whether it can be directed either to Dr. Lee at Rochester, N. Y., or to Dr. Lee at Augusta, Ga. or any other place, as we may chance to write the superscription.

But, jesting apart, we are scarcely less surprised, that such trickery (to give it no harsher name,) should be resorted to by the proprietor of an agricultural Journal with a view to advance its interests, than we should be, were the statements of both the above named Journals proved to be true. Our Agricultural publications have hitherto maintained a high and dignified bearing, and have enjoyed an untarnished reputation for candor, honesty, and truth, insomuch, that if they sometimes chanced to be mistaken, it was set down to the account of human imperfection. But a Journal which can be guilty of such transactions as the above, not only throws to the winds its own good name, but robs the whole fraternity of Journals of the like kind, of the public confidence, and covers them with irretrievable disgrace.

But where is Dr. Lee? We do not undertake to settle this question, but this we can testify, that upon looking into one of the above named Journals we no longer see the accustomed imprint of his great mind, while, upon looking into the other, we see something so very nearly like it, that we are almost involuntarily lead to exclaim, "Here is Dr. Lee!"

Gypsum; Its Remote Effects.

As the successful application of plaster to the soil of Michigan is attracting the attention of our farmers, and as the day is not distant, when it will probably be brought into general use among us, it may not be amiss to contemplate its remote consequences.

In the closing number of the last volume of the Farmer, we gave an extract from the Albany Cultivator, in reference to the renovation of a worn out farm in Massachusetts, through the application of plaster. The application had been made for ten successive years, and with undiminished effect through the whole time. A little science, however, would teach the proprietor of that farm, that the time is coming round, when the same happy effect will not follow the application of this renovating agent. *That* time may not come in many years, but come it will. Another exhaustion is approaching, slowly it may be, but still it is coming.

We well remember the time, when the use of plaster was totally abandoned by multitudes of farmers in that same state, from this very cause. They had applied it for many years with the happiest effect. Many a day have we aided in scattering it broad-cast over the plains; and many a season have we witnessed its fertilizing effect. But at length the re-action came, and the very lands over which had waved the luxuriant harvest, for so many years, as the result of the application of plaster, became suddenly barren. Not only did plaster cease to produce its accustomed effect upon them, but they ran down in the scale of productiveness, in spite of it, far below the point at which they stood previous to its application—insomuch, that they scarcely repaid the toil of the husbandman. The farmers in that region were taken by surprise, and knew not what to make of it. Their lands were ruined, as they supposed, but what ailed them no one could tell, save that plaster, through some deleterious agency, had done the mischief. Of its mode of action they had no conception, nor co'ld they *guess* why it was, that such a result should follow. One thing only they knew, that whereas their lands were once fertile, they were now exhausted and nearly worthless.

And here is the advrntage which agricultural science confers upon the modern farmer. She teaches him, that it is not the plaster which exhausts the soil, but the luxuriant crops which this fertilizer causes to grow out of it. These luxuriant crops of course require other ingredients for their growth than those which the plaster supplies. These ingredients are drawn from the soil more or less rapidly in proportion as the crops are more are less luxuriant. In other words, they will produce the same yield of any particular crop, whether plaster be applied or not, only they will produce it, when it is applied, in a less number of years, just as the oil in a lamp will be sooner exhausted by a large wick than a small one. But as the same amount of light is given out by the lamp whether the oil be exhausted sooner or later, in like manner, the same yield of any particular crop will be produced, whether the ingredients in the soil be exhausted in a greater or less number of years.—So that in fact it may be questioned, whether the farmer has not, on the whole, realized a greater profit from his capital, than if he had made no application of manure to the soil, for he has realized a given yield from it, in half the number of years, and at half the expense of cultivation, that he would have realized, had no plaster been applied, and with no more exhaustion than would have followed, just as surely without such application, by the time the same yield had been obtained.

But there is a more excellent way. Such a premature exhaustion of the soil, is not a *necessary* consequence of the application of plaster. It is a very easy matter to keep the stock of the different ingredients of the soil good by such other applications as the case may require.

The particular ingredient of the soil which seems to be more readily exhausted through the application of plaster, is potash. This alkali in some of its combinations, is one of the chief ingredients which enter into the composition of plants, and without it, but few, if any plants can grow to any degree of perfection. In trees it enters into the composition of the bark, leaves and small branches far more largely, than into that of the main trunk. All our readers know, that trees from which the bark has been removed, are nearly worthless for ashes; and were they in the habit of consuming the leaves and small branches, they would learn that they are equally if not more productive in ashes, than the bark.

Nor does this alkali perform a less important function in the growth of grain than in that of trees. If we mistake not, it exists in

about the same proportion in each. An experiment made by a farmer in Gottengin, Germany, shows how very soon the potash in a soil may be exhausted, so as to render it incapable of producing wheat or the grasses. In order to obtain potash, he planted his whole farm with worm wood, the ashes of which are known to contain a large proportion of the carbonate of that alkali. The consequence was, that his land was thus rendered incapable of producing grain for many years, the soil having been entirely exhausted of its potash.

Is it not obvious then, that to keep the stock of potash from being exhausted by the luxuriant crops which result from the application of plaster, it is only necessary to apply occasionally some substance which contains it, as ashes for instance?

Benefit of Agricultural Papers.

A subscriber to the Farmer remarked to us the other day, that he had been greatly benefited by reading agricultural papers, and expressed his surprise and grief, that so many farmers in his neighborhood still retained their old prejudices against book-farming, thus wilfully closing their eyes to their own true interests. He related an instance in which the instruction contained in a single paragraph had saved him immense labor, and as it may be of equal importance to every farmer, we will give his own account of the matter for the benefit of all.

He remarked, that he was brought up to the laborious process of making hay by spreading, turning over and over, cocking, spreading and turning, and cocking again, until its very life was bleached out of it. This was the practice of his good old father, and his grand-father, and great grand-father before him, and he knew no other way. But happening to cast his eye upon a paragraph in an agricultural paper, in which it was stated, that most of this labor might be saved, and a far better article of hay be procured, by simply letting the grass lie in the swath, and wilt under a days sun, and then cocking it, and leaving it in that position a day or two longer, when it would be perfectly cured. From that time he had practiced this method, and had thus been saved a considerable amount annually, while his hay was of far better quality than when he pursued the old method of bleaching. So superior is the quality of his hay cured in this manner, that his neighbors frequently inquire how he manages to have such bright looking clover, and yet they are so set in their prejudices, that but few adopt the new method, though its advantages are so great and so obvious. His hay which had been thus cured, had always kept perfectly well, and he thought it no more liable to spoil in the mow or stack than hay cured after the old fashion.

It is scarcely necessary to add, that he had reference to the making of English, or *tame* hay, which is with much more difficulty cured, than the *wild* hay of our marshes.

By the way, we shall have something to say hereafter in regard to the true merits of this latter article, which seems to be such a favorite of our farmers.

Preparing Land for Wheat.

It has long been the conviction of our most intelligent and observing farmers, that the laborious and expensive practice of summer-fallowing, and then cross-plowing, and perhaps crossing again, besides various draggings, was not the best way to prepare land for wheat An intelligent farmer in Jackson county, remarked to us some three or four years ago, that he was not satisfied with this laborious process, as the result was in no way answerable to the means employed. Straw in abundance, he remarked, could be produced in this way, but the yield of wheat was out of all sort of proportion, straw enough for twenty-five bushels of wheat, frequently not yielding more than fifteen.

In a late excursion into Oakland Co., we were glad to learn, that some farmers in the neighborhood of Pontiac, had fallen upon a method of preparing their land for wheat, in which they realized a much more profitable return for the labor expended, than from the old method. Our friend, J. J. Todd, Esq., who has tested the new method, (at least new for Michigan,) promised us a minute account of it, but as he has not as yet done it, we will narrate some particulars in relation to the process and the results of it, as detailed to us by him, leaving him to fill up the outlines at his leisure. The plan is to stock the land with some species of grass, either clover, clover and timothy, or some other kind, as the case may be, every time a wheat crop is put upon it. After having taken off a luxuriant crop of hay, he allows the second crop to attain to a good degree of maturity, say, till it gets in the

blossom, and then plows it under, and simply passes over it with the cultivator or harrow, leaving the green crop which has been turned under to ferment, and undergo decomposition undisturbed beneath the surface—and this is all, except that he applies about a peck of plaster to the acre, and plows it under with the crop of grass.

In this way he had procured better crops of wheat with far less labor than he had previously realized, and besides, he had the extra profit of a good crop of hay, and what was of more consequence than all, his land, instead of being exhausted, as by the old process of summer-fallowing, &c., was growing richer every year.

The question may be raised by some, how land can grow richer, from which a crop of hay and a crop of wheat are removed every alternate year, and no equivalent apparently returned to the soil? Nothing has been returned to the soil except the second crop of grass, and *that*, it may be said, can only restore to the soil, what it drew from it to supply its own growth.

The only answer that can be given to this question at all satisfactory, is. that as plants are known to draw a considerable portion of their nourishment from the atmosphere, the crop of grass which was plowed under, must have drawn more nutriment from that source, than had been taken from the soil by the crops which were removed. This may seem strange to some, but if the land is actually enriched by the above process, is there any escape from this conclusion?

We trust Mr. Todd will favor the readers of the Farmer with a detailed account of the matter. And among other things, we wish him to state, whether timothy turned under in this manner, will not come up and grow with the wheat, and interfere with it—also, whether he makes use of the subsoil plow? If he does not, we have no doubt, that the use of it occasionally, would greatly add to the result.

We had forgotten to state, that Mr. T. regarded a peck of plaster plowed under, as good as double the quantity left upon the surface. We are inclined to the opinion, that the effect of plowing it under, would be greater the first season, and less the second and third, from the fact, that its solution would be more readily effected.

Plaster on Meadows.

We have mentioned several instances of the beneficial application of plaster to the wheat crop. Nor is its application less beneficial to the grasses, especially upon our openings. The openings of the West have been cried down as worthless for grazing, the soil having been supposed to be unsuited to the production of any thing better, in the grass line, than the miserable substitute which it produces in its unreclaimed state. Hence but limited attempts have been made by the farmers upon our openings, to introduce the cultivated grasses. In some few instances, they have seeded a small patch, and finding that, although it would produce well the first season or two, it would soon run out, they have generally desisted, and have thus given up their lands to the reproach of barrenness, so far as grazing is concerned. And hence, they have looked upon their marshes as having been sunk into the earth around them by a benificent Providence, for their especial benefit, in view of the incapacity of their uplands to produce grass. It seems not to have occurred to their minds, that to retrieve their uplands from the reproach of being "*unnatural for grass*," and to make them perfectly *natural* for it, they have only to keep the stock of ingredients, which enter into the composition of the grasses, good and in due proportion in the soil. If any one of those ingredients exists in so small a proportion, that a crop or two will exhaust it, can any thing be plainer, than that, to restore fertility, the farmer has only to restore the exhausted ingredient? Who ever heard of the fertility of meadows being kept up in any country for a series of years, without restoring from time to time the exhausted properties of the soil? Undoubtedly some soils become exhausted of certain properties essential to the production of the grasses, much sooner than others. There may a very considerable difference in the proportion of certain properties to be found in different soils, *in their virgin state*, insomuch that the product of the first crop even, may be much more abundant from the one than from the other. But it matters not, whether the soil be originally deficient in certain qualities, or whether those qualities become exhausted by cropping; the condition of the soil is the same in either case, and if the same treatment be bestowed, the same result will follow.

Right glad are we to find, that the above remarks in regard to the general neglect of our opening uplands for grazing purposes, do not apply to *all* who occupy these large and impor-

tant portions of our state. There are farmers scattered here and there over our peninsula, who raise luxuriant crops of grass from year to year, upon these very lands. This has been accomplished in many cases within our knowledge, through the application of plaster. We have in our mind at this moment, two farmers, one in Oakland Co. and the other in Washtenaw, whose crops of grass by this means, would vie with the most luxuriant crops upon the timber land.—These farmers inform us, that a half bushel of plaster to the acre, sown upon opening, upland meadows, which had previously produced a yield scarcely worth harvesting, caused them to yield between two and three tons of hay to the acre the first season, and nearly or quite as much the second season, and far more than they had previously done, the third season, no more than the one application having been made.—And the testimony of these farmers is fully confirmed from other quarters. The effect seems to be about the same upon all kinds of grasses, and upon all kinds of soils except clay.

What cause then have the farmers upon our openings to complain, on this score, if they can procure such crops of grass from the application of a manure which costs only about twenty cts. to the acre?

By way of precaution, however, in the use of this manure, we refer the reader to our article in the present number on its remote effects.

American Quarterly Journal of Agriculture & Science, Albany, N. Y.—Dr. E. Emmons & A. Osburn, Esq., Editors, price $2 00 a year in advance—a very able standard work on agriculture, in which the principles of the science are happily developed, and their utility to the agriculturist shown, beyond peradventure, by the test of practical application. Indeed we know of no work in which the connection between the science and the art of agriculture, are so clearly shown, or from which the cultivator of the soil could derive more substantial benefit.

Table of Contents.—We shall omit the table of contents for each number of the Farmer, not doubting, that a general index at the close of the volume, will be abundantly satisfactory. Some space will thus be saved.

☞ Farmers in various parts of Germany, particularly in some districts of Saxony, successfully employ acorns for the winter fattening of sheep.

Educational Report.

We have just received the Report of the Superintendent of public instruction, for the State of Michigan, for 1847, or rather a compilation from the two preceeding reports, (which was ordered by our Legislature) with important additions, together with the report for 1847. We have had no time to go into an extended examination of this document, but have become so far interested, upon looking into it, that we shall not be satisfied to lay it by, until we have given it a thorough perusal. It is manifestly rich in instruction in relation to the great subject of which it treats, and should find its way to every habitation, and its wholesome truths be made to shed their hallowed influence around every domestic hearth, within our borders. We make the following extract:

In what, let me ask, does the perfection of civil liberty consist? Not in allowing every man to do as he pleases, without regard to consequences, certainly. But rather in abridging the privileges of individuals, whenever it becomes *necessary* to do so, in order to promote the general prosperity of the State. I would then suggest the inquiry whether it would not be politic to withhold the privilege of exercising the elective franchise, after the year 1852, or 1856 at farthest, from all persons who are unable to read and write; and to prohibit them, even, from entering into the marriage relation. This prohibition and forfeiture should apply particularly, (and perhaps exclusively) to minors who pass the period of their majority after said dates. The object would *not* be to prevent persons from voting, or to take from them any of the privileges of freemen. It *would be* to encourage them to make the necessary attainments to govern themselves and their families, and safely to participate in the government of our happy country. Nor yet would the object be to prevent persons getting married. No! no!! It would rather be to throw around that sacred institution an additional protection, and thus prevent, in a measure, the increase of pauperism and crime; of wretchedness and human degradation; and do something to promote domestic and social happiness, and the permanent elevation of human kind.

Some fair one, it is true might be wooed by a gallant, though unlettered lover. But she need not hence, of necessity, reject his suit. She might become his teacher!—Oh! how interesting, under such circumstances, would be the lessons of instruction! And how profitable, too, to the parties themselves, and to their posterity, to the latest generations. Should the lover refuse to accept the bread of intellectual life when offered to him by the object of his choice, he would prove himself alike unworthy of her hand

and heart. If neither party were capable of teaching the other, instead of spending their time and means in attending circuses, balls, concerts of a low order, and other places of doubtful utility—as is almost of necessity the practice of those whose minds and hearts are uncultivated, and who know no higher source of enjoyment —they might join with others, and, making up a school of young persons,similarly circumstanced, it may be, employ a suitable teacher, and spend a portion of the ordinary period of *courtship*—and especially their *evenings*, to a reasonable hour—in learning to read and write, and in storing their minds with such knowledge as is necessary to qualify them to discharge their duty as parents and citizens, in a manner creditable to themselves, and safe to the community.

Raising Pear Seedlings.—Having been a professional gardener and nurseryman in the north of Europe, for nearly thirty years, I hope that my experience may be acceptable to many persons engaged in this business.

For several years I succeeded in raising pears in a very simple way. I sowed the seeds in the fall, as soon as gathered, in a garden bed, distributing them pretty thickly. The plant will easily come up in the spring, and as soon as they get four leaves, I take them up, cut off the tap root and transplant them into beds or nursery rows of good soil, where the young plants will soon make lateral roots, and start nicely.

By thus increasing the number of mouths or feeders of the plants, they will grow excellently well. The branching roots now having the whole summer before them, will be suficiently strong to stand the winter, *even without protection*, and in the next summer, the *second*, they will be fit for budding.

The above mode, as reccommened by Mr. Nelson, is very simple and much more easy to perform than taking the young pear seedlings up and packing them in a cellar during the first winter, as we know by experience must be done to save them, unless they are very much protected.

Save the best seed for planting.—A writer in the Gardiners' Chronicle, (English.) gives some facts which should induce farmers and others who preserve seeds, to be careful in regard to sowing the different kinds of seed which are produced. He says that he began his experiments with long pod beans. He carefully selected the finest and fullest pods for seed, taking none with fewer than five beans in each pod; these he saved for seed. The following year there were many six seeded pods, and some with seven. He remarks, "following up the same plan I find this season many more six and seven seeded pods and some with eight! There are still a few plants that have five seeded pods, and it is worthy of remark that the plants have seldom a six seeded pod upon them, but all fives; on the contrary, a six seeded plant generally has nearly all the pods bearing six beans or more."

The above hints are valuable, and if followed out in the selection of seeds from other plants, although the saving may be small, the accumulated results throughout a large field will be immense.

N. Y. Farmer's Club.—The following extracts from a discussion had at a meeting of the N. Y. Farmer's Club, will interest our readers. We copy from the Farmer & Mechanic:

Mr. Meiggs.—As to the position of manures in soil, it is now thoroughly recommended in gardening, to begin on one side of the land, dig up the soil down to the subsoil, carry the soil thus taken off to the opposite side of the ground, then put manure in the trench thus made, and then dig in the manures with the subsoil, then put the next spading of soil over the manure and so on—so that the manure will be about one spade in depth from the surface.

Dr. Underhill.—I would put the subsoil on top. It is best to plough subsoil up to the surface, it becomes dark mould in a short time.

C. H. Hall.—Manure at a moderate depth will remain dormant. It must be near the surface in order to be affected by the heat of the sun, or it cannot ascend.

Dr. Underhill.—Manure should be put as deep again in loose porous soils, as in stiff clay soils. Nothing ascends but the elements in solution or gassified, and under the influence of heat. In our country the solar heat is very powerful, but in England it is feeble, only penetrating a few inches into the soil. I have recently visited a valley of rich soil, which has been filled up with poor barren land to the depth of from seven to fifteen feet—about seven years ago. Now the growth on this once barren land is remarkably vigorous in grape vines, and plants of various kinds—much more so than on some of the lands adjacent. No doubt the roots of the plants run down—but here it is perfectly evident, that the rich elements of the valley beneath, ascend to the surface through the sand.

When the winter breaks up in spring, the ground cracks, then rains carry down some of the manure. I dig deep about my fruit trees,to let manure sink deep—and I find the best fruit on the trees is derived from the lower roots which are deep—never on the lower limbs which are supplied from those nearest the surface of the land. The moisture at a depth is greatest.

Mr. Meiggs.—Columella, about 1800 years ago, recommended for grape vines, a trench not less than three feet deep, with some stones and bones at the botton, then good soil over them.—He astonished the Roman world with his grapes, as well as many other vegetable productions.

Mr. Aycrigg.—I have noticed the roots of an apple tree descending twenty-five feet in the earth and even at that depth it still went lower down.

New Inventions.

☞A new flax breaking, scutching and hackling machine has been invented by a gentleman in St. Louis. The notice which we have seen of this machine, states, that the breaking is accomplished by means of solid, polished, cast iron rolls, ribbed in a peculiar serpentine form.—Fine, spiral brass hackles are attached to cylinders, by means of which the fibre is perfectly softened and thoroughly hackled, at the same time that the breaking and scutching is going on. By the use of this machine, two children can do the work of twelve or fifteen persons using common hand cleaners

The soil of these north-western States are peculiarly favorable to the growth of flax. By the process of preparing it for market with the facilities offered by such a machine, and the application of steam to the proper rotting of the stalk we may anticipate the time as not far distant when this article, flax, will be one of our most profitable agricultural productions.—*Iowa Farmer.*

Curtchetts' Solar Gas.—This invention is said to be decidedly popular and promises to be eminently useful. His experiment, says a contemporary, of lighting the public grounds at the capitol (Washington,) by an enormous solar gas lamp one hundred feet above the dome of the capitol, has been tested on several nights of unpropitious weather, and proved highly successful. It lights up not only the public grounds inside the railing, (about thirty acres,) but extends and is of great benefit some one-quarter of a mile beyond in every direction;—and in fact, is of great public benefit a mile from its centre, being two miles in diameter; of course, the light, as it recedes from the centre, becomes less and less, till the rays are haloed, producing an effect simular to that of a rising moon in its early stages.

File Machine.—Most of the files now used in this country are imported, being made in England by hand, with great labor. The Portsmouth Journal states that Mr. Richard Walker has invented and patented a machine now in operation, which will ere long make files an article of export, instead of import. Three machines, which can be tended by one man, can complete twenty common files an hour. A steam engine of five horse power can put at least fifty of these machines in operation.

Pneumatic Process for Sinking Piles.—A hollow iron pile is placed upon the surface through which it is required to be sunk; by means of an air pump it is rendered a vacuum. This being effected, the sand, soil, water, &c. rush into it from the bottom, and as they rush in, the pile decends by its own weight into the cavity left by their ascent. The sand, soil and water, are then discharged from the pile by an apparatus for pumping; a fresh vacuum is formed, and the pile sinks further and further.

The rapidity with which the piles are sunk is very surprising. More is done in an hour by the air pump and a hollow iron tube than can be performed in a day, or even in a week, by the common method.

New Method of propelling Railway Cars.—The power used is that of atmospheric air, made to operate the pistons of a great number of small engines which are placed along the line of rails and connected to a pipe under ground, from which the air is continually exhausted by steam engines. These small air engines give rotary motion to a number of wheels placed *horizontally*, in sets of three each, at a distance of about 300 feet apart, along the rail. The passenger or freight cars next have a rail extending along their sides from end to end, which is regulated so as to come in contact with the horizontal wheels—a valve being opened by the car as it approaches, and the engines operate only long enough to pass the length of the car. The idea is for these wheels to give sufficient momentum to the car to send it along to the next set of driving wheels, and so on throughout the whole line.

Advantage of going to Law.—The advantages of appealing to these dispensers of equal and exact justice to all men, courts and juries, in disputed and doubtful cases, is forcibly brought home in the following story by a Connecticut lawyer.

A farmer cut down a tree which stood so near the boundary line of his farm, that it was doubtful whether it belonged to him or his neighbor. The neighbor, however, claimed the tree, and prosecuted the man who cut it for damages.—case was committed from court to court. Time was wasted, temper soured, and money lost, but the case was finally gained by the prosecutor.—The last my friend knew of the transaction was, the man who gained the cause, came to the lawyer's office to execute a deed of his whole farm which he had been compelled to sell to pay his costs! Then houseless, and homeless, he could thrust his hand into his pocket, and triumphantly exclaim—"I've beat him!"

☞In a recent patent case, the verdict was predicated on the ground, that the *invention* and *use* of an article, will not invalidate the claims of another party who may have subsequently secured a patent for it, *provided the previous manufacture and use, was for "private convenience,"* and not presented to the public.

Substitute for Soap.—Boiled potatoes are said to cleanse the hands as well as common soap; they prevent chaps in the winter season and keep the skin soft and healthy.

XUM

GENERAL INTELLIGENCE.

Auditor Generals Report.—It appears by the Auditor General's report, that the total internal improvement debt of the State of Michigan, is $1,965,500 51, and the general fund debt $325,-169 00, making the aggregate indebtedness of the state $2,290,768 57. The resources, applicable to its payment, are, general fund, $396,-621 95, Internal Improvement fund, $301,998 00, making an aggregate of $698,649 95, leaving a ballance of indebtedness of $1,602,118 56.

Congress.—A resolution has been agreed to in the Senate, requiring the Department to report the number of troops in service, the number of deaths, &c., since the commencement of the war. Mr. Calhoun has made a great speech in the advocacy of his resolutions, which propose to withdraw our troops to a defensive line, urging in behalf of the measure, the menancing dangers of an immense National debt, a large standing army, the constantly diminishing chances of indemnity, and the prejudicial effect upon our institutions, of annexation. Webster and Hale opposed the passage of the ten regiment bill. Senator Fairfield, of Maine, is dead. Mr. Pettit, of the House, had a fall upon the ice and broke his leg. Mr. Westcott, from the committee on patents, reported a bill to increase the number of examining clerks, the business of the patent office being at this time seven or eight months in arrears. Resolutions of thanks to General Scott, have been passed by the House, with an amendment, that the war is unnnecessary.

New Land Office.—A land office has been established at Saut Ste Marie, for the sale of the mineral lands in the state of Michigan.

☞Among the N. Y. Banks in bad repute or broken, are, the Merchant's Bank of Chautauque Co.; Bank of Pine Plains, Bank of New Rochelle; Commercial Bank, Friendship; Ballston Spa Bank; Franklin Bank, French Creek; Merchants' Bank, Canandaigua; White Plains Bank; Security Bank, Huntsville; James Bank, at Jamesville; the Atlas Bank, of Clymer, and Bank of Elmira.

The Susquenah Co. Bank, Pa., has failed, and the Wyoming Bank, the Erie Bank, and the Housdale Bank, in the same state, are in bad repute. Mineral Bank, Maryland, failed. The New Hope and Delaware Bridge Co. Bank, N. Jersey, also failed.

The loss of property by the great flood in the Ohio Valley, is estimated at ten millions of dollars.

The number of Foreign emigrants who arrived at the various ports in the United States, the past year, is 233,710—last year, 151,662.

Two tutors of Yale College were recently assaulted by two students, and the one stabbed, and the other knocked down with a bar of iron, the latter supposed to be mortally injured.

☞ The N. Y. & Erie Railroad is in operation to Port Jervis, on the Delaware, ninety eight miles from New York.

Cincinnati and its suburbs contain a population of 100,000.

The University.—It is stated in the Governor's Message, that the State University, at Ann Arbor, has at the present time, eighty-three students under the instruction of seven professors, that it is furnished with a well selected library of 5000 volumes, that its debt has been reduced from $100,000 to $20,628, that its amount of available revenue the past year, exceeded $15,-000, about half of which has been expended in the erection of an additional building for dormitories and lecture rooms.

Common Schools.—From the Governor's Message we learn, that the whole number of children in the State reported, between the ages of four and eighteen, is one hundred and eight thousand, one hundred and thirty, and the number reported as in attendance in the common schools of the State the last year, eighty-eight thousand and eighty. For 1846, the apportionment of the primary school interest fund, amounted to 31 cents for every child, and in 1847, it amounted to 32 cents to each one. There are three hundred township libraries in the State, containing 43,226 volumes.

Michigan Legislature.—The Legislature of Michigan met at the New Capitol on the first Monday of the present month. A. W. Buel of this City, was elected Speaker. But little has yet been done. The temporary building which has been erected for the use of the Legislature, is described as being more convenient than the old State House in this City. Price of board about the same as in Detroit.

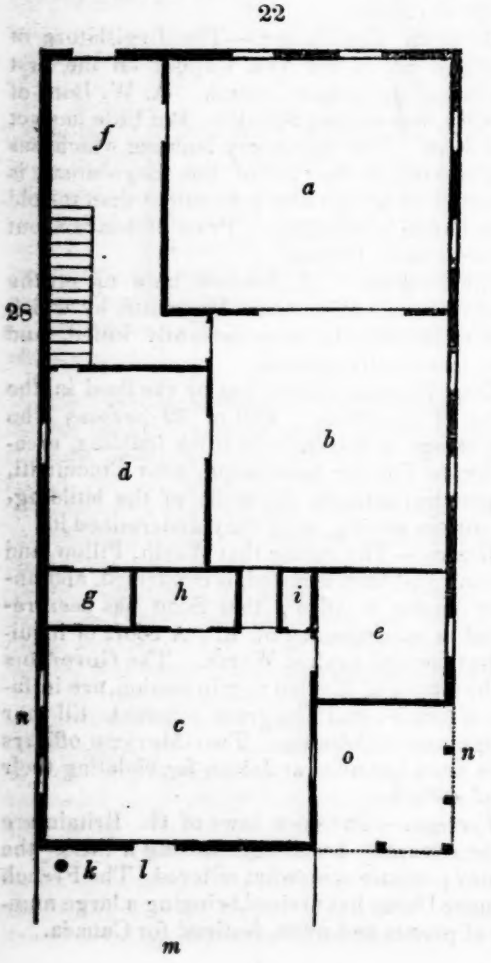
The Steamer A. H. Johnson blew up on the Ohio river recently, near Maysville, by which seventy individuals were instantly killed, and forty more badly scalded.

Many lives have been lost by the flood in the valley of the Ohio. Out of 32 persons who took refuge in a large new brick building, erected by the Fourier Association, near Cincinnati, 17 perished beneath the walls of the building, the waters raising, until they undermined it.

Mexico—The rumor that Worth, Pillow and Duncan had been arrested, is confirmed, and another rumor is afloat, that Scott has been recalled in consequence of it. A court of inquiry has decided against Worth. The Governors of the States of Mexico now in session, are in favor of peace, and Congress opposed, till our troops are withdrawn. Two Mexican officers have been executed at Jalapa for violating their parol of honor.

Foreign.—The corn laws of G. Britain are to be restored—breadstuffs raising a little—the money pressure somewhat relieved. The French steamer Union has arrived, bringing a large number of priests and nuns, destined for Canada.

Plan of a House.——The main building including the two front rooms, hall and bed room, is 22 by 28 feet, two stories high and stands endwise to the street. The parlors *a* and *b* are connected by folding doors. The front one is 15 by 14, and the other 13 by 14 feet. The kitchen *c* is 12 by 14 with a closet *h*, and cupboard *i*, and has a pantry *e* adjoining 8 by 7 feet. This pantry is separated from both the other parts of the house, and is made with a lean-to roof, and is only one story. The kitchen may be a story, or a story and a half, as desired. *l* Is a platform with a pump *k*, under the roof of the woodhouse *m*. Should it be desirable, on account of location, to change the order of the rooms it can be done by shifting them all from side to side.—As it is, the entrance can be on either side of the house. Allowing it to front the west there can be a door on the south side at *n* opening into the kitchen, though it is always bad policy to have an outside door open into any room; but if it is desirable to enter on the north side, the window *o* can be made a door instead, and then there can be a very pretty piazza, as indicated by filling out the square of the rooms *e* and *c*; and the roof of the pantry *e* can be finished with a balustrade.



The City vs. the Country.—One would suppose that an agricultural paper would look for the greatest accessions to its subscription list from the country, it being emphatically *the farmer's own paper*. But so far as this matter is concerned, this City is going ahead of the country. Our subscription list in the City, has about doubled its numbers since the commencement of the present volume. Our City friends subscribe in part to encourage the enterprise, and in part to keep pace with the developments of agricultural science, which are getting to be of engrossing interest to every class of the community. We trust our country friends who have a far weightier interest in sustaining the paper, will not suffer themselves thus to be outdone.—We have received, to be sure, many accessions from the country, but they appear rather at a disadvantage in comparison with the increase in the City. But we trust the scale will soon be made to turn the other way.

The Michigan Farmer.—The Superintendant of Public Instruction recommends, that the surplus volumes of the Michigan Farmer, for 1846, and 1847, be added to the District School and Township Libraries throughout the State.

BACK VOLUMES OF THE FARMER.

Volumes IV and V, neatly put up in pamphlet form, for sale at 50 cents a volume. They can be forwarded by mail or otherwise, as may be directed. Address H. Hurlbut, Detroit.

TERMS.—The MICHIGAN FARMER is published at Detroit, twice a month, by WARREN ISHAM, at one dollar a year in advance—after three months $1 25—after six months $1 50—after nine months $1 75. No subscription taken for less than one year, nor discontinued till all arrerages are paid. To clubs, five copies for four dollars.

Office, on King's corner, third story.

Market Intelligence.

DETROIT PRICE CURRENT.

Flour, bbl.	$4	75a$		Salt,	$1	94 a$2	00
Corn, bus.		37½a	40	Butter,		14 a	16
Oats,		22 a	24	Eggs, doz.		14	
Rye,		31½a	35	Hides, lb.		3 a	7
Barley,		34 a	37	Wood, cord,	2	25 a 3	00
Hogs, 100 lbs.	3	00 a 3	25	Wheat, bus.		75 a	80
Apples, do		25 a	50	Hams, lb.		6 a	8
Potatoes,		35 a	38	Onions, bu.		41 a	50
Hay, ton,	8	00 a10	00	Cranberries,		75 a 1	00
Wool, lb.		22 a	28	Buckwheat 100 lbs.			1 25
Pig iron, ton,	31	00 a34	00	Indian meal, "			75
Coal, Leh.	11	00 a13	00	Beef, do	2	00 a 3	00
do Ohio,	4	00 a 5	00	Lard, lb. retail,			08
Peas, bu,		37 a	38	Honey.			12½
Beans,		75 a	80	Apples, dried,			1 25
Beef, bbl.	8	00 a11	00	Peaches, do	1	75 a 2	00
Pork,	10	00 a13	00	Clover seed, bu.			4 00
White fish,	6	00 a 7	00	Herd's grass do do			1 00
Trout,	5	50 a 6	00	Flax do			75
Cod fish, lb.		5 a	5¾	Lime, "			75
Cheese,		6 a	7½				

FURS.

R'coon p'me large,	44	a62½		Red Fox no 1	1	00	
do do small,	31	a50		Grey do no 2		37½	
do no 2	12	a25		Wild cat no 1		37½a50	
Mink no 1	37½	a50		do 2		25 a30	
M'sk rat p'me	9	a10		Otter no 1	3	00 a3	50
do no 2	6	a7		Martin no 1	1	12 a1	25
Deer red per lb	16	a18¾		Fisher no 1	1	25 a1	75
do grey do	10	a12½		Bear no 1	3	00 a4	00